

REMARKS

Claims 1-124 are pending in the current application. In an office action dated May 7, 2002, claims 1-124 were rejected under 35 U.S.C. §112, 1st paragraph; claims 1-43, 48-58, 62, 63, 65-81, and 86-94 were rejected under 35 U.S.C. §103(a).

Claim Rejection under 35 U.S.C. § 112 (first paragraph)

Claims 1-124 stand rejected under 35 U.S.C. §112 (first paragraph) as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention

Applicants respectfully disagree with the Examiner's characterization of the term "signature." Firstly, Applicants use of the term "signature" is consistent throughout the claims and specification. Secondly, Applicant's assert, that such usage is clearly defined and understood by those of ordinary skill in the art. For example, signature is defined as "[a] collection of symbols that can be used for identification purposes" by the *Dictionary of Physics* 435 (Valerie Illingworth., 2nd ed, Penguin Group 1990). Applicant's use of the term signature is consistent throughout the application and is consistent with such definition as originally disclosed. See Applicant's specification p. 13 ¶ 1, wherein each signature is mapped to one or more overhead messages.

Note that the signature may be generated at the base station, the Mobile Unit (MU), or both. In one embodiment, for example, a base station transmits a sequence of signatures for overhead messages. In another embodiment, for example, the Mobile Unit (MU) generates a signature using the overhead message. See Applicant's specification p. 7 ¶ 2-3. In the various embodiments disclosed, the relationship between signature and an overhead message is clear: a change in one or more overhead messages will change the signature. See Applicant's specification p. 13 ¶ 1.

A signature is further defined in paragraph two (2) on page thirteen (13), "[r]eferring to Figure 3, an overhead message is changed at step 302 at the BSC 210. At step 304, at the BSC a signature is generated for the overhead message that was changed." For example, a new neighbor list would reflect a change in the overhead

message, and a signature would be generated at the BSC to represent the change in the overhead message, which resulted from the neighbor list change. From the forgoing, one skilled in the art will appreciate that the signature represents at least one overhead message, and the signature only changes if at least one overhead message changes. Applicant's therefore assert that "signature" is not equivalent to a sequence number. A signature may be implemented in a variety of ways; and Applicants' have provided a variety of methods of signature generation. Although the manner in which the signature is generated may vary, the signature is always mapped to at least one overhead message.

There are a number of ways to generate a signature including the use of a hashing function. A signature may be generated by hashing the overhead message using a known hashing function to produce a sixteen or thirty-two bit signature. See Applicant's specification p. 14 ¶ 2. Hashing an overhead message to generate a signature can be performed by a signature generator using well-known arithmetic logic or a general purpose microprocessor. See Applicant's specification p. 14 ¶ 2. One of ordinary skill in the art would recognize that the signature may be generated using other forms of logic not specifically described herein.

The length of the signature in bits depends on system requirements that two consecutive messages share different signatures (i.e., avoid collisions). See Applicant's specification p. 14 ¶ 2. In contrast to a sequence, there is a definite but small probability that two different consecutive messages may share the same signature because hashing only serves to compress the message space into a smaller signature space in which more than one message may have the same signature. In the event that two consecutive messages are different but the hashing produces the same signature for both, the hashing may be repeated with a random number until a signature that is different from the signature of a predetermined number of previous messages is generated. This is clearly different from the use of a sequence number,

and is well defined as a method of generating a signature in Applicants' originally filed specification.

Note that in one embodiment the signature is generated from the overhead message. Further differentiation between the signature and a sequence number is provided by the embodiment disclosed in Fig. 5. Fig. 5 illustrates a process for updating overhead messages for an alternative embodiment in accordance with this invention and having the forward link with the structure illustrated in Figure 4. In this embodiment, the signature is generated by the MU; therefore, in this embodiment, a sequence number generated at the BSC is of no use in generating a signature at the MU. Referring to Figure 5, an overhead message is changed at step 502 at the BS 210. At step 504, the MU 202 wakes up and listens. At step 506 the BS transmits the message to the MU 202 and the MU 202 receives the message. At step 508 the MU 202 generates a signature for the message using a hashing function as described with regards to Process 300 in Fig. 3. At step 512, the MU 202 retrieves a previous signature from storage at the MU 202. At step 512, the MU 202 compares the previous signature with signature generated at step 508. If the signature generated at step 508 is the same as the previous signature, at step 514 the MU 202 goes back to sleep. If the signature generated at step 508 is different from the previous signature, at step 416, the MU 202 updates its operating parameters with the information contained in the message received at step 506. In other words, the MU generates a signature and determines if the overhead message is of interest based on that signature. Consequently, one of ordinary skill in the art would understanding the meaning of a "signature" to encompass a variety of methods of identifying the overhead message(s) in an overhead message capsule. See Applicant's specification p. 16 ¶ 2.

Applicants consider the term "signature" and the use of the term "signature" to be well defined and understood by one of ordinary skill in the art. Applicant's assert the claims are patentable over the prior art of record.

Claim Rejection under 35 U.S.C. § 103(a)

Claims 1-43, 48-58, 62-63, 65-81, and 86-94 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Tiedemann, Jr., et al. (U.S. Patent 5,392,287) in view of Schwendeman (U.S. Patent 5,396,537).

Applicant's have amended the claims to clarify Applicant's claimed invention. Applicants respectfully assert that the pending claims are patentable over the prior art of record.

Consequently, the Examiner is respectfully requested to withdraw the rejection.

Allowable Subject Matter:

Claims 64 and 95-124 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, first paragraph. Additionally, claims 44-47, 59-61, and 82-55 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, first paragraph and to include all the limitations of the base claim and any intervening claims. Applicant gratefully acknowledges the Examiner's indication that they would be allowed if re-written in an independent form.

However, Applicant believes that the arguments presented in this response, as well as the amendments presented herein, render the pending claims allowable. Applicant, however, reserves the option of re-writing them in an independent form in the course of prosecution.

CONCLUSION

All of the stated grounds for objection and rejection have been properly accommodated and traversed. Applicants, therefore, respectfully request that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. It is believed that a full and complete reply has been made to the outstanding Office Action, and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will

expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

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APPENDIX A

1. (Twice amended) A method for communicating messages to a mobile station by a wireless communication system providing access to a decentralized data network, the method comprising the steps of:

providing a [sequence of messages] a set of overhead messages in an overhead message capsule;

providing [for each respective message a respective signature, the respective signature being separate from the respective message; and] a signature corresponding to the set of overhead messages, the signature provided in a signature capsule;

[comparing the respective signature for any given respective message with at least one signature.]

modifying the set of overhead messages in the overhead message capsule; and

changing the signature in response to modifying the set of overhead messages.

24. (Amended) The method of claim 1, further comprising:

receiving at the mobile station the respective signature for each respective message, wherein the respective signature for each respective message was transmitted by the wireless communication system;

listening at the mobile station for a respective message whose respective signature does not match a corresponding signature from the at least one signature, wherein listening is done only until the respective message is received;

wherein the respective message was transmitted by the wireless communication system;

sleeping at the mobile station after the respective message is received; and

waking up at the mobile station [up] after sleeping for 5.2 seconds.